

REMARKS

Claims 66 and 73-74 have been amended for clarification. Support for this amendment is found on page 22 of the specification, line 36-page 23, line 6. Thus, no new matter has been added. The amendment was not earlier made because the objection/rejection to which it forms a response was not of record prior to the present Office action. As it is believed the amendment places the claims in a position for allowance or at least a better position for appeal, entry of the amendment is respectfully requested.

Applicants appreciate the withdrawal of a number of rejections and the indication that claims 70-72 are allowable if presented in independent form.

Thus, the sole remaining issue relates to the combination of a structural description with a functional description as set forth in claims 66(d) and (e) and repeated in claims 73-74.

With respect to the rejection under 35 U.S.C. § 112, first paragraph, the Office states that the reason the rejection is maintained is that "the recited functional language describing the claimed genera does not adequately describe the common feature of the generic protein being claimed." It does not appear that the Office has explained what it is about this definition that is inadequate. The common functional feature is that an antibody which binds a protein of SEQ. ID. No.: 2 also binds this protein. This functional property is consistent with the ability of SEQ. ID. No.: 2 and related proteins to serve as tumor markers, whereby the existence of a tumor might be detected using an antibody immunoreactive with this class of proteins. Respectfully, applicants believe that they are entitled to an explanation of why this functional language does not "adequately describe the common feature" of the proteins being claimed. Without such an explanation, applicants are at a loss as to how to respond.

With respect to the rejection under 35 U.S.C. § 112, second paragraph, it is believed that the amendment is completely responsive. It has now been explained that the antibody binds

specifically to SEQ. ID. No.: 2 and is cross reactive with the 55P4H4-related proteins claimed. The metes and bounds of the claim are thus clear; the claimed protein must bind to an antibody that has been shown to bind to SEQ. ID. No.: 2 and be cross reactive with 55P4H4-related proteins. The antibody binds only non-specifically to proteins that are not in the class of 55P4H4-related proteins.

The attention of the Office is called to the specification at page 22, beginning at line 36 and continuing to the following page. As explained,

55P4H4 variants, analogs or homologs have the distinguishing attribute of having at least one epitope that is "cross reactive" with a 55P4H4 protein having the amino acid sequence of SEQ. ID. No.: 2. As used in this sentence, "cross reactive" means that an antibody or T cell that *specifically* binds to 55P4H4 variant also *specifically* binds to the 55P4H4 protein having the amino acid sequence of SEQ. ID. No.: 2. (Emphasis added)

Specific binding is a term understood in the art to mean that there is a direct interaction between the variable region of the antibody and an epitope contained in a protein. (See page 22, line 36- page 23, line 10.) This is distinguished from "non-specific" binding which is a simple association between large molecules due to intermolecular forces not related to the recognition of an epitope by an antibody or T cell. Thus, the antibodies in question can be considered "specifically" bound to each of SEQ ID No: 2, the related 55P4H4-like proteins claimed, and the 30 contiguous amino acids containing the appropriate epitope.

In view of the foregoing amendment and discussion, it is believed that all claims, claims 66 and 70-74 are in a position for allowance. Passage of these claims to issue is respectfully requested.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Assistant Commissioner to

charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket No. 511582001200.

Respectfully submitted,

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